

Application No. 10/514,404
Amendment dated May 24, 2006
Reply to Office Action of February 24, 2006

REMARKS

This amendment responds to the Office Action of February 24, 2006. Claims 1-23 are now pending in the application. Dependent claims 22 and 23 have been added.

In this Office Action, claims 1-4, 8, 14-16, and 19 currently stand rejected under § 102(b) as being anticipated by DE 4446772C ("the '772 patent"). Claims 1, 2, 8, 17, and 21 currently stand rejected under § 102(b) as being anticipated by DE 19617657A ("the '657 patent"). And claims 1-21 currently stand rejected under § 102(b) as being anticipated by U.S. Patent No. 5,244,269 to Harriehausen et al. ("the '269 patent").

In view of the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and requests reconsideration of the application in this regard.

Submission of Formal Drawings

Applicants submit herewith formal drawings at the end of this paper. The formal drawings include five drawing sheets illustrating Figs. 1-7 and replace Applicants' original, informal drawings. Applicants' submit that no new matter is introduced by these drawings.

35 U.S.C. §102 -- Rejections of All Claims 1-21

Examiner has rejected the claims under § 102(b) over the '772 patent, the '657 patent, and the '269 patent.

The '772 patent, a reference which was already considered during the examination proceedings before the European Patent Office, discloses a device for guiding the movement of a lowerable trough 3 of a baggage compartment which comprises an upper lever 10 connecting pivot joints 6, 8, and a lower lever 12 connecting pivot joints 7, 9. A first end of a pneumatic spring 13 is connected to a sidewall 4 of the baggage compartment at the pivot joint 7. A second end of the pneumatic spring 13 is connected to a guide roller 15 in a force application point 14, wherein the guide roller 15 is slidably movable along a curved guide track 11 provided on the upper lever 10. When a piece of luggage is disposed in the trough 3 of the baggage compartment, the weight of the piece of luggage acts on a weighing plate 21 which is supported on pressure sensors 22. The pressure sensors 22 then induce the actuation of an adjusting cylinder 16, such that a piston rod 26 of the adjusting cylinder 16 slidably moves the guide roller 15 along the guide track 11. As a result, the lever arm of the pneumatic spring 13 to the pivot joint 6 is increased, such that the spring force of the pneumatic spring 13 compensates for the weight of the piece of luggage disposed in the trough 3.

The '657 patent describes a device for guiding the movement of a lowerable trough 3 of an overhead baggage compartment which comprises a pneumatic spring 7 so as to produce a load-dependent assistance force. A first end of the spring 7 is pivotably mounted to a housing of the baggage compartment in point 7A. A second end of the pneumatic spring 7 is connected to a coupling member 5 in a force application point 7B. A curved guide track 11 is provided on a swing disc 6 between points 8A and 8B, wherein the second end of the pneumatic

spring 7, which is connected to the coupling member 5, is slidably movable along the guide track 11. When a piece of luggage 3A is disposed in the trough 3 of the baggage compartment, the pneumatic spring 7 pivots around point 7A, such that the force application point 7B assumes a position along the guide track 11 which depends on the weight of the piece of luggage 3A disposed in the trough 3. In the case of a maximum weight of the piece of luggage 3A, the force application point 7B is moved towards the point 8B, whereas in the case of a minimum weight of the piece of luggage 3A, the force application point 7B is moved towards point 8A. The operating principle of the device according to the '657 patent, thus, is quite similar to that of the system known from the '772 patent. By varying the position of the force application point 7B along the guide track 11, the lever arm of the pneumatic spring 7 is varied such that the spring force of the pneumatic spring 7 compensates for the weight of the piece of luggage 3A disposed in the trough 3.

Finally, the '269 patent describes a device for guiding the movement of a trough 3 of a baggage compartment 1, the structure of which is more or less identical to the structure of the system known from the '772 patent. An upper lever 9 connects pivot joints 5, 7, and a lower lever 10 connects pivot joints 6, 8. A first end of a pneumatic spring 14 is connected to a sidewall 4 of the baggage compartment 1 in pivot joint 6. A second end of the pneumatic spring 14 is connected to a guide roller 15, which is slidably movable along a curved guide track 16 provided on the upper lever 9. When the trough 3 is loaded, the guide roller 15 is moved along the guide track 16, such that the lever arm of the pneumatic spring 14 is varied so as to

compensate for the weight of the load disposed in the trough 3.

It is well established that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). For the following reasons, the '772 patent, the 657 patent, and the '269 patent fail to teach each and every element of independent claim 1.

As to the specific differences between claim 1 and the devices described in the '772 patent, the 657 patent, and the '269 patent (collectively, "the cited patents"), each of the cited patents fails to describe a housing (18). Rather, each of the cited patents describes a plurality of components that attach to a sidewall of the baggage compartment.

Second, each of the cited patents fails to disclose a force-transmitting device for transmitting assistance force to a location remote from the force assistance module as recited in claim 1. Specifically, in the '772 patent and the '269 patent, the lower lever, respectively, numerals 12 and 10, which serves to transmit the assistance torque of pneumatic spring 13 and 14 (respectively) to the lowerable trough 3, is not fastened to or in the vicinity of the force application point. See numeral 14 in the '772 patent and connecting point between the second end of the pneumatic spring 14 and guide roller 15 in the '269 patent. Instead, the pivot joint 7 and 6 (respectively) is located at the first or opposite end of the pneumatic spring 13, 14. Similarly, in the device described in the '657 patent, a force-transmitting device (not shown in the drawings) for transmitting the assistance torque of the pneumatic spring 7 to the lowerable

trough 3 necessarily has to be attached in the vicinity of point 7A, i.e. at the end of the pneumatic spring 7 opposite the force application point 7B.

Finally, independent claim 1 recites an adjusting device that interacts with a support and a load sensor and rotates the support in order to vary the angle between the force application direction of the assistance force at the force application point (P) and the force-transmitting device. In other words, independent claim 1 requires that the adjusting device (52) rotate the support (36) to vary the angle between the force application direction of the assistance force at the force application point and the force-transmitting device. This changes, i.e., adjusts the value of the assistance force acting upon the force-transmitting device depending on the detected load. To better understand how adjusting device (52) rotates the support (36) to vary this angle, a color-coded copy of Figures 2 and 4 is attached as Exhibit A. Exhibit A shows the rotation of support (36) relative to adjusting device (52).

Notably, in the cited patents, the component carrying the guide track along which the force application point is displaceable is only pivoted when the baggage compartment is either opened or closed. *See* the upper lever 10 and 9, respectively, in the '722 patent and the '269 patent, respectively, and the swing disc 6 in the '657 patent. As such, a rotation of any of these components in dependence on a load detected by a load sensor is neither possible nor useful. In other words, none of the devices employs the adjusting device (52) and support (36) as described in claim 1.

To further contrast claim 1, the devices described in the cited patents rely on the technical principle of varying an assistance torque which is transmitted from the pneumatic spring 13 (the '722 patent), 7 (the '657 patent), and 14 (the '269 patent) to the lowerable trough 3, in dependence on the load moment produced by the loaded trough 3. This variation of the assistance torque produced by the pneumatic spring 13, 7, 14 is achieved by displacing the force application point of the pneumatic spring 13, 7, 14 along the guide track 11 (the '722 and '657 patents) and 16 (the '269 patent) provided on the upper lever 10 (the '722 and '657 patents) and 9 (the '269 patent) and the swing disc or pivot joint 6, respectively, and hence varying the lever arm of the pneumatic spring 13, 7, 14. To better understand the devices described in the cited patents, Applicants have also enclosed color-coded copies of Figure 1 of the '722 patent (Exhibit B), Figure 1A of the '657 patent (Exhibit C), and Figure 1 of the '269 patent (Exhibit D).

Accordingly, in the devices of the cited patents, the variation of the lever arm of the pneumatic spring 13, 7, 14 necessarily requires that the upper lever 10, 9 and the swing disc 6, respectively, and, hence, the guide track 11, 16 during the displacement of the guide roller 15 and, hence, the force application point of the pneumatic spring 13, 7, 14 is held in the position shown in Figure 1 of the '722 patent, Figure 1A of the '657 patent, and Figure 1 of the '269 patent. In these devices, the variation of the assistance torque provided by the pneumatic spring 13, 7, 14 is thus achieved only by displacing the force application point of the pneumatic spring 13, 7, 14 along the guide track 11, 16 but not, as required by independent claim 1, by rotating a support provided with a path for displacing a force application point.

Dependent claims 22 and 23 further focus the claimed invention on the features which distinguish over the cited prior art. More specifically, claim 22 clarifies that the force application point (P) is also in the housing (18), and that the housing is located behind a back wall of the luggage compartment. Dependent claim 23 further describes the force-transmitting device as transmitting assistance to a centrally located position of the top wall of the luggage compartment. These features are clearly shown in Fig. 1, and described at page 7, lines 4-18.

Conclusion

For these reasons, none of the cited patents anticipates independent claim 1, nor any of the dependent claims 2 –21. Accordingly, Applicants respectfully request that the rejections be withdrawn. Also, neither the ‘772 patent, the 657 patent, nor the ‘269 patent teaches or suggests the combination of features recited in claim 1, and therefore claim 1 is patentable over the cited prior art. For essentially the same reasons, and further because each of dependent claims 2-21 recites one or more additional features, Applicants respectfully assert that each of claims 2-21 recites a combination of features which patentably defines over the prior art.

Applicants respectfully submit that this case is in condition for allowance and request allowance of the pending claims.

Nonetheless, if Examiner believes any detailed language of the claims requires further discussion, Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. Applicants believe that fees associated with this

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communication have been paid. Should any additional fees or surcharges be deemed necessary, Examiner has authorization to charge fees or credit any overpayment to Deposit Account No. 23-3000.

Respectfully submitted,
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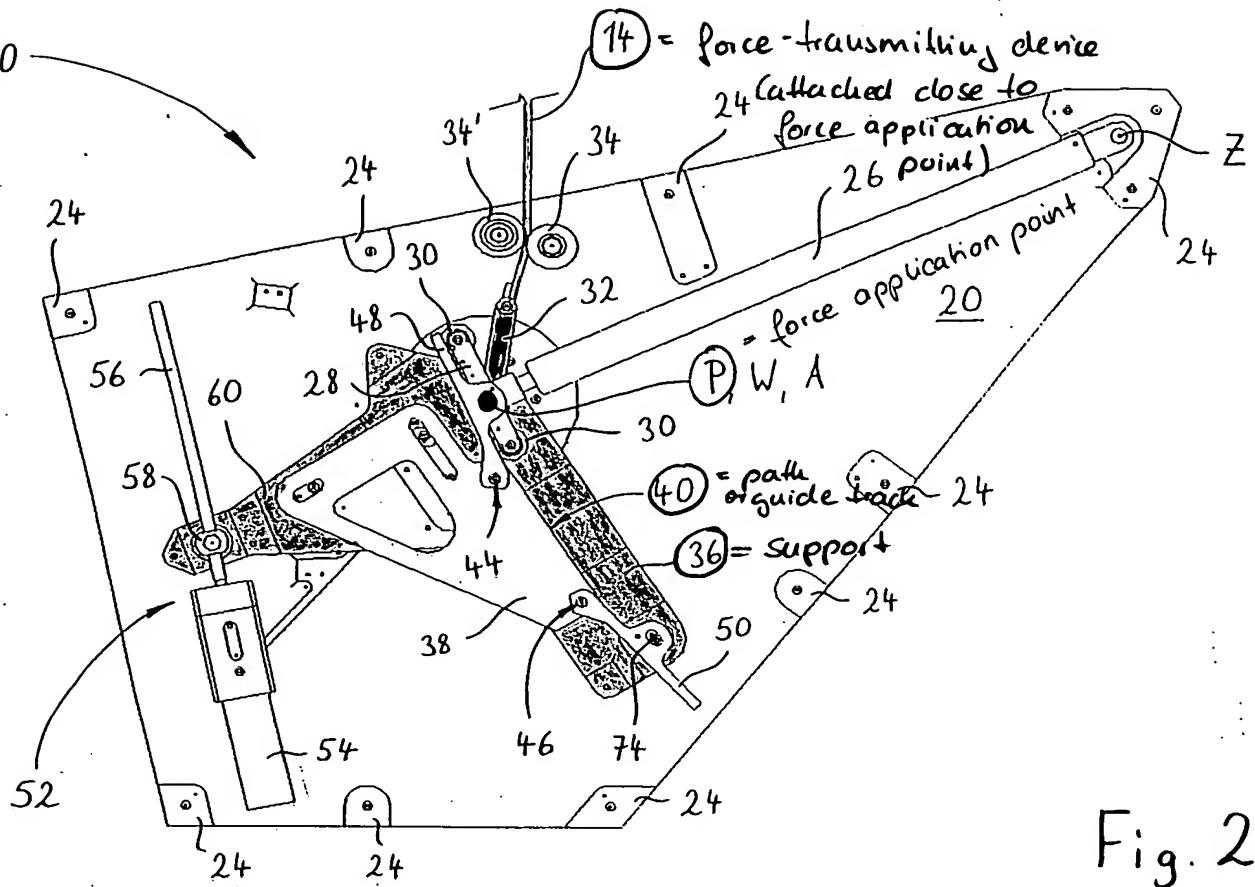


Fig. 2

baggage compartment open + unloaded

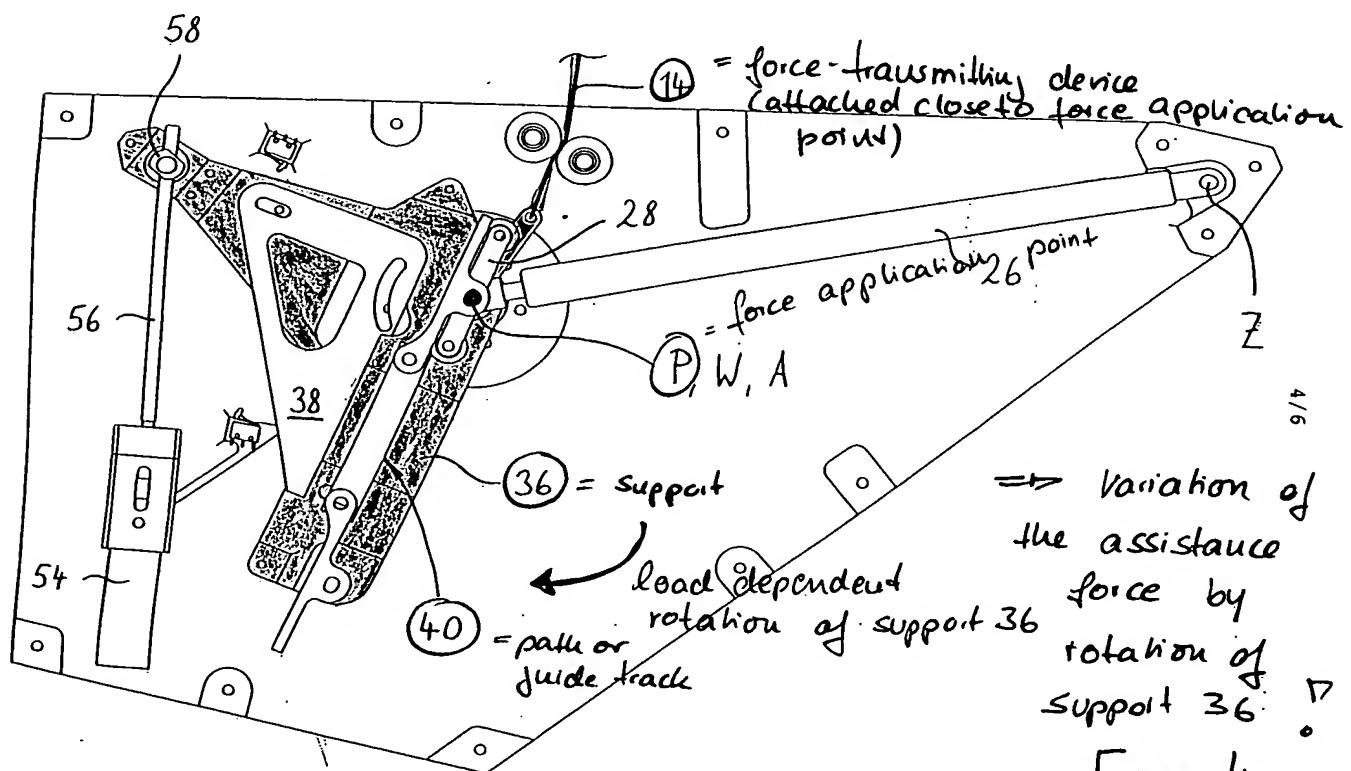


Fig. 4

baggage compartment open + loaded

EXHIBIT

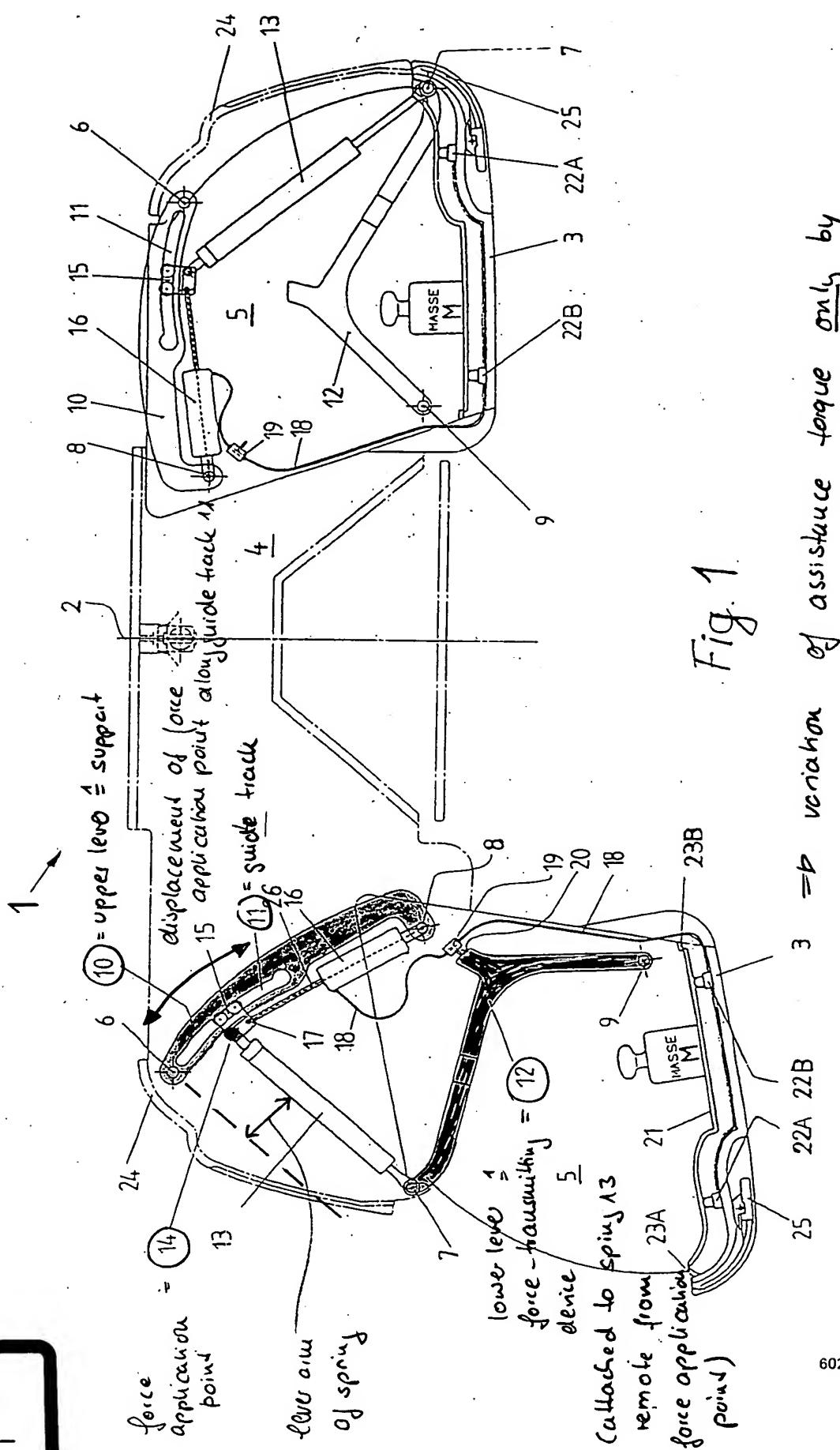
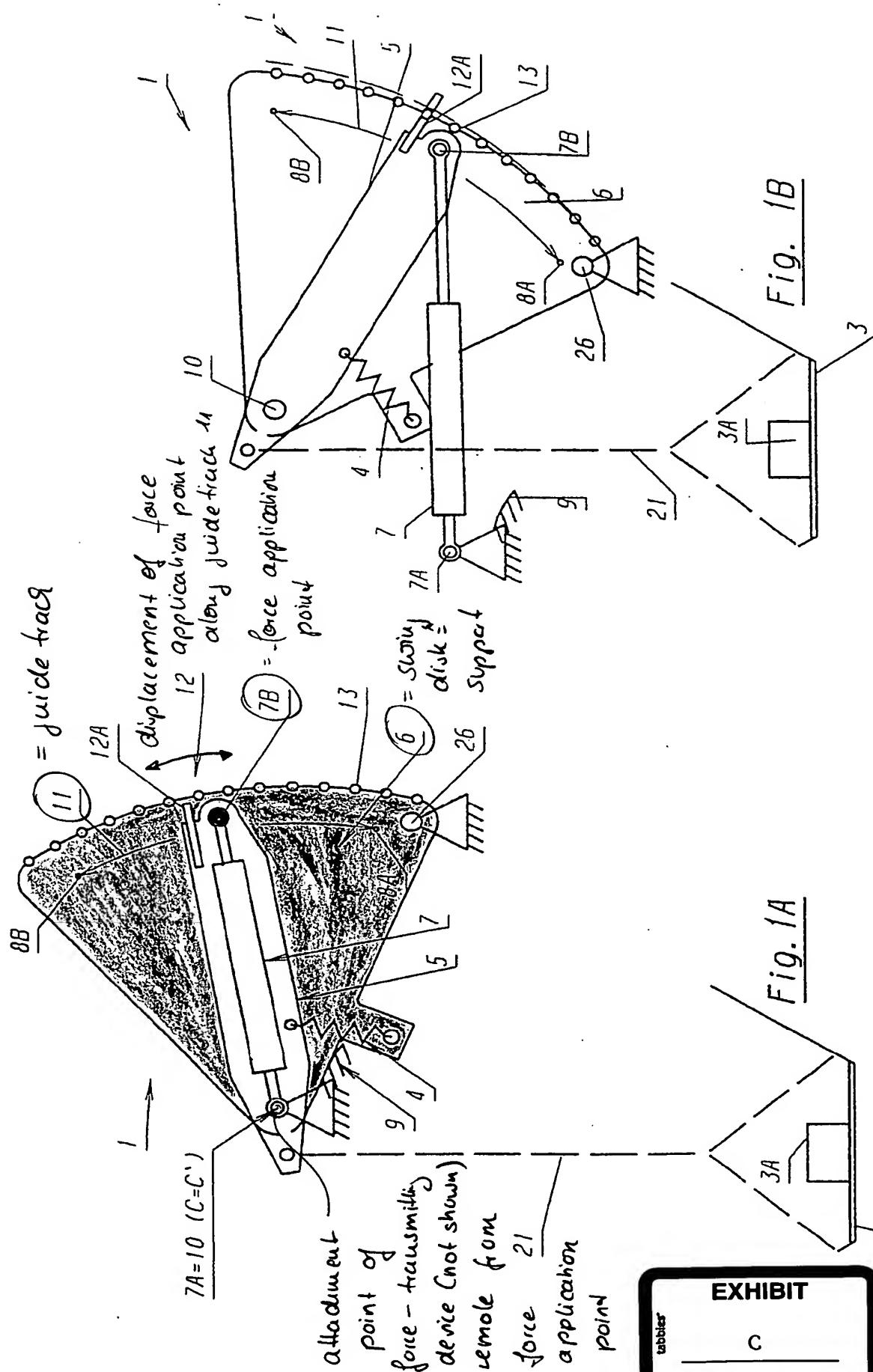


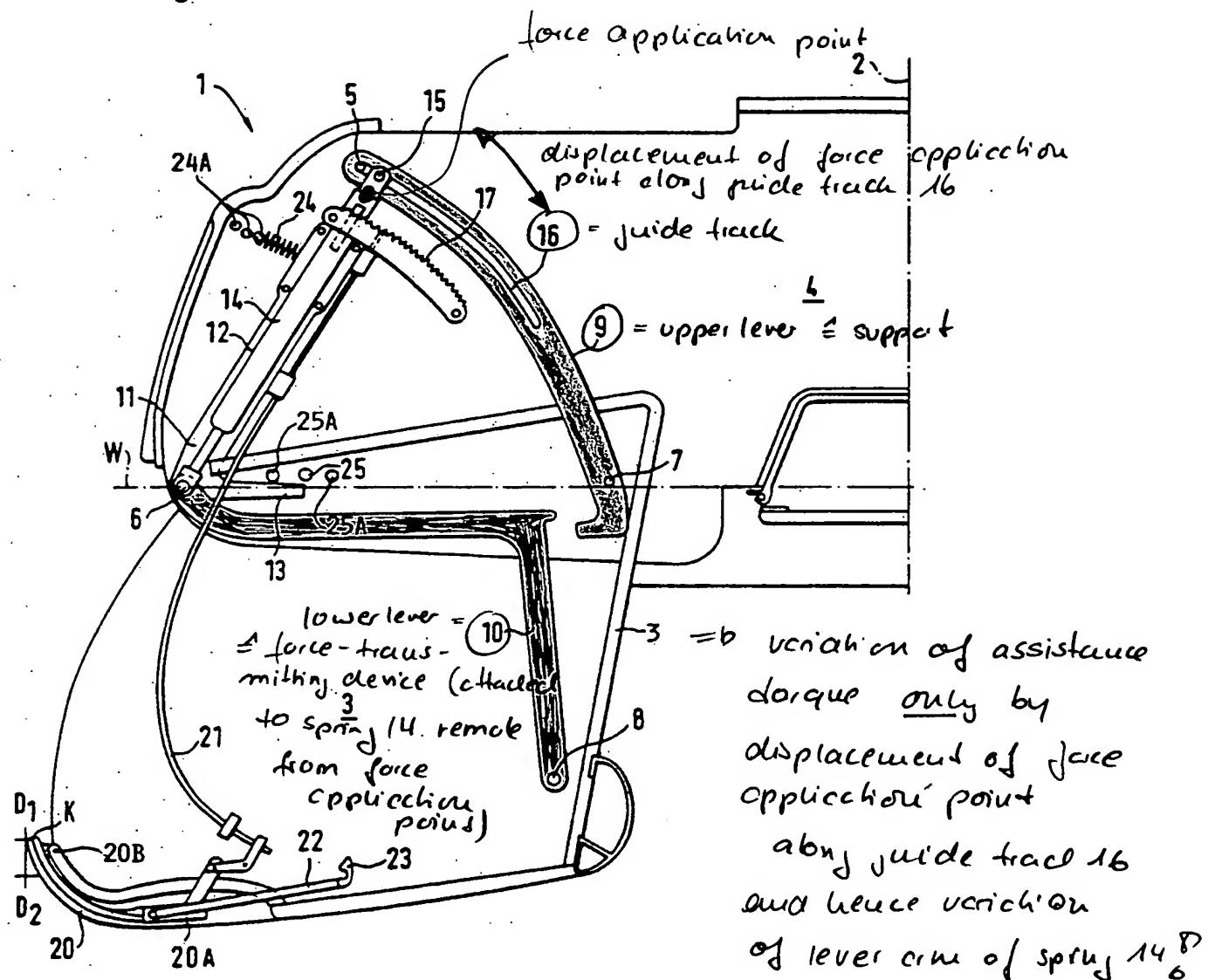
Fig. 1

\Rightarrow variation of assistance torque only by displacement of force application point along guide track 11 and hence variation of lever arm of spring 13



=> variation of assistance torque only by displacement of force application point 11 along guide track 10 and hence variation of lever arm of spring 7.

Fig. 1



baggage compartment open + unloaded